

Attorney Docket No. 291958161US
Client Ref No. P01-0046

REMARKS

The undersigned representative would like to thank Examiner Koch for holding a personal interview on 23 February 2005 to discuss claim 54 in light of the Ringer and Nagatomo references. As explained in more detail below, an agreement was reached that amended claim 54 would overcome the rejections set forth in the Office Action dated 23 November 2004. This paper accordingly provides a response to the outstanding Office Action and the Applicant's Interview Summary of the personal interview.

Claims 54-59, 65, 66, 69-83, 85-87, 94-113, 115-120, 123-128, 131-135, 138-148, 150-155, 158-164, 170-173, 176-189, 191 and 196 are presenting pending in this application. Claims 60-64, 67, 68, 84, 88-93, 114, 121, 122, 129, 130, 136, 137, 149, 156, 157, 165-169, 174, 175, 190 and 192-195 have been cancelled in this paper. The cancellation of the foregoing claims is made without prejudice to pursuing these claims in a continuation application. Claim 54 has been amended in accordance with the language agreed upon in the personal interview on 23 February 2005. Claims 85, 115, 126, 150, 161, 191 and 196 have been amended to clarify certain aspects of these claims. New claims 197-200 have been added to the application in this paper, and these claims depend from claim 115.

The status of the application in light of the Office Action dated 23 November 2004 is as follows:

A. Claims 60-64, 67, 68, 84, 88-93, 114, 121, 122, 129, 130, 136, 137, 149, 156, 157, 165-169, 174, 175, and 190 were rejected under 35 U.S.C. § 112, first paragraph.

B. Claims 54-70, 75-99, 104-122, 150-175 and 180-190 were rejected under 35 U.S.C. § 103 over U.S. Patent No. 4,590,094 issued to Ringer ("Ringer") and U.S. Patent No. 4,282,825 issued to Nagatomo ("Nagatomo").

C. Claims 71-74, 100-103, 123, 126-149, 176-179 and 196 were rejected under 35 U.S.C. § 103 over the combination of Ringer and Nagatomo and either of U.S.

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Patent No. 4,651,440 issued to Karl ("Karl") or U.S. Patent No. 5,156,174 issued to Thompson ("Thompson").

D. Claims 54-190 and 196 were rejected under the doctrine of obviousness-type double patenting over various claims of U.S. Patent Nos. 6,375,741; 5,658,387; 5,431,421; and 5,235,995.

A. Response to Section 112 Rejections

Claims 60-64, 67, 68, 84, 88-93, 114, 121, 122, 129, 130, 136, 137, 149, 156, 157, 165-169, 174, 175 and 190 were rejected under 35 U.S.C. § 112, first paragraph on the grounds that these claims contain subject matter that was not sufficiently described in the specification to establish that the inventors had possession of the claimed invention at the time the application was filed. More specifically, these claims were rejected on the grounds that the features of a "recirculating system," a rotational velocity of "250 rpm," and/or a "heat dissipater" were not adequately supported by the specification of the present application or any of the applications to which the present application claims priority. The applicants do not concede to the merits of this rejection, but nonetheless these claims have been cancelled without prejudice to expedite prosecution of the application.

B. Response to Section 103 Rejection – Ringer and Nagatomo

Claims 54-70, 75-99, 104-122, 150-175 and 180-190 were rejected under 35 U.S.C. § 103 over the combination of Ringer and Nagatomo. Claim 54 has been amended as discussed with the Examiner during the 23 February 2005 personal interview, and it was agreed that amended claim 54 overcomes the rejection under Section 103 over Ringer and Nagatomo. Claim 150 has been amended to include the subject matter of amended claim 54 discussed in the personal interview. As such the rejection of pending claims 54-59, 65, 66, 69, 70, 75-83, 150-155 and 158-160 should be withdrawn.

Independent claims 85, 115, 126, 161 and 191 have been amended to include a wafer support configured to overlay the wafer and support a periphery of the wafer with

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a process side of the wafer facing downward. Ringer and Nagatomo each fail to disclose a wafer support that overlays and supports a periphery of the wafer so that a process side of the wafer faces down. Ringer discloses a system with a vacuum chuck that supports a center portion of the wafer, but not the periphery of the wafer. Nagatomo discloses a system with a workpiece conveyor that appears to hold a workpiece face up through a number of washing, etching and drying stages. Nagatomo also discloses an etching system having an annular bath in which a carousel with several wafers circulates, and a dryer in which a wafer is rotated in what appears to be a "face up" orientation (i.e., the rotary table 67 in Figure 12 of Nagatomo is juxtaposed to the downward facing side of the wafer W). As such, Ringer and Nagatomo each fail to disclose a processor head carrying a rotatable wafer support configured to overlay a single wafer and support a periphery of the wafer with a process side of the wafer facing downward. Therefore, claims 85-87, 94-99, 104-120, 161-164, 170-173 and 176-189 are patentable over the combination of Ringer and Nagatomo.

C. Response to Section 103 Rejection – Ringer and Nagatomo in View of Either Karl or Thompson

Claims 71-74, 100-103, 123, 126-149, 176-179 and 196 were rejected under 35 U.S.C. § 103 over the combination of Ringer and Nagatomo in view of either Karl or Thompson. Thompson is not prior art to the present independent claims because the present application claims priority to the parent application of Thompson (see the Substitute Specification filed on October 3, 2001), and these claims are supported by the priority document. The rejection of the independent claims over the combination of Ringer, Nagatomo and Thompson, therefore, should be withdrawn.

Claims 71-74 and 196 are patentable over the combination of Ringer, Nagatomo and Karl. Claims 71-74 are patentable over this combination of references as depending from amended claim 54, which overcomes the rejection based upon Ringer and Nagatomo as discussed in the personal interview. Claim 196 has been amended to contain the language of claim 54 discussed in the personal interview, and thus the rejection of claim 196 should be withdrawn for similar reasons. Therefore, the rejection of claims 71-74 and 196 should be withdrawn.

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Claims 100-103, 123, 126-149 and 176-179 are also patentable over the combination of Ringer, Nagatomo and Karl. First, the combination of Ringer and Nagatomo fails to disclose a processor head carrying a rotatable wafer support configured to overlay a single wafer and support a periphery of the wafer with a process side of the wafer facing downward for the reasons explained above. The combination of Ringer and Nagatomo accordingly fails to teach the subject matter of claims 100-103, 123, and 176-179 because these claims depend from claims 85, 115 and 161, respectively. Claim 126 has been amended in accordance with the amendment to claim 85, and thus the combination of Ringer and Nagatomo also fails to disclose the subject matter of claims 126-149. Second, there is no motivation to combine the "face up" wafer holder of Karl with the "face down" wafer holder of Ringer. As such, Karl does not cure the shortcomings of the combination of Ringer and Nagatomo and Karl should not be combined with Ringer. Therefore, the rejection of claims 100-103, 123, 126-149 and 176-179 over the combination of Ringer, Nagatomo and Karl should be withdrawn.

D. Response to Obviousness-Type Double Patenting Rejections


Claims 54-190 and 196 were rejected under the doctrine of obviousness-type double patenting over U.S. Patent Nos. 6,375,741; 5,658,387; 5,431,421; and 5,235,995. Although the applicants do not concede to the merits of these rejections, enclosed are Terminal Disclaimers that obviate these rejections to expedite prosecution of the present application. Therefore, the rejections of these claims for obviousness-type double patenting should be withdrawn.

In view of the foregoing, the pending claims comply with 35 U.S.C. § 112 and are patentable over the cited art. The applicant accordingly requests reconsideration of the application and a Notice of Allowance. If the Examiner has any questions or believes a telephone conference would expedite prosecution of this application, the Examiner is encouraged to call Paul Parker at (206) 359-3258.

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Respectfully submitted,
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